

# BUREAU OF WATER

South Carolina Department of Health and Environmental Control

## SC DHEC BEACH GRANT

SEMI-ANNUAL UPDATE

NOVEMBER 2008

Prepared for:

Joel Hansel  
United States Environmental Protection Agency  
Region 4 Office  
Atlanta, Georgia

Prepared by:

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SC DHEC EQC Bureau of Water  
2600 Bull Street  
Columbia, SC 29201



South Carolina Department of Health  
and Environmental Control

[www.scdhec.gov/beach](http://www.scdhec.gov/beach)

## **I. Introduction**

The purpose of this report is to provide the U.S. Environmental Protection Agency (EPA) with updated information concerning South Carolina's Ocean Water Monitoring and Notification Program. This report covers activities that have taken place since the last semi-annual update submitted May 2008.

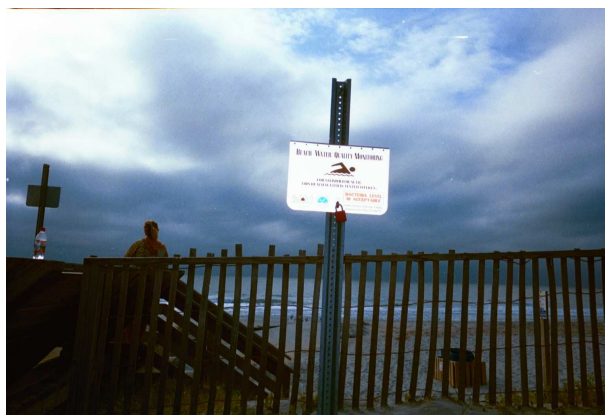
## **II. Functions of the Program**

The goal of the Ocean Water Monitoring and Notification Program is to allow the public to make informed decisions concerning recreating in waters presenting a potential for adverse health effects. To carry out this goal, DHEC regularly monitors ocean water quality and issues swim advisories as necessary. SCDHEC staff includes a program coordinator, and an IT support person, both located in Columbia; 1 region coordinator in each of our 3 coastal regions: Myrtle Beach, Charleston, and Beaufort; additional sample takers as needed; and laboratory staff who analyze the samples, also in the region offices.

## **III. Program Accomplishments**

### **A. Mini-Grant Program**

Beach monitoring mini-grants were offered to provide financial assistance to coastal municipalities carrying out beach monitoring activities. For 2008, the mini-grants offered cities and counties funding for advisory posting and public notification beyond the posting of advisory signs. The Town of Surfside Beach accepted this offer. The Town has purchased signs and promotional items. The signs are pictured below. One set of the promotional package, which includes our bookmark and an insulated lunch tote, will be placed in hotel lobbies and rental offices with a note asking those who want one to come by Town Hall. When the visitor arrives at Town Hall they will be given information about swimming in swashes, signage, and the SCDHECWeb site. The current contract ends October 15, 2008.



## B. Documentation

SCDHEC's Ocean Water Quality Monitoring and Notification Program booklet was modified in March 2008 and posted on our Web site at a revised address: [www.scdhec.gov/beach](http://www.scdhec.gov/beach).

Our Web site has been updated to reflect our new documents including the above named booklet and our new bookmark (enclosed.) The bookmark is being distributed to our regional offices plus 1,000 were given to the Town of Surfside Beach. An additional 2000 are being printed. The DHEC Art Department developed the logo – *Stay Well in the Water* for this public notification effort.

With the help of Marie Horton in our Distance Learning Office and Cheryl Wix, Bureau of Water Outreach Office, we developed a survey to determine the awareness of the public for beach advisories and notification. Labor Day marked the end of the survey on the Web site. As of that time we had 443 hits, with 35 people responding to the survey. The complete survey results are attached in the Additional Information section. In summary, most of the respondents were familiar with DHEC's ocean water quality sampling and advisory program; however, the majority had not seen signs urging caution around swash areas. Twenty-six of the 35 respondents had not visited Earth911 to check advisory information for S.C. beaches. Only one person said they were very likely to swim if there was a posted advisory. The age of the respondents was almost evenly distributed between all age groupings.

The advisory designations on Earth911 were changed this year. Instead of having green for acceptable and red for an advisory, we followed the lead of Clay Clifton in San Diego and created additional categories.



Acceptable water quality: Ocean water quality meets or exceeds both federal and state guidelines for swimming and other recreational uses.



This is a site with stormwater runoff onto the beach. Avoid swimming in the runoff area and 200 feet on either side of the runoff into the ocean, especially after rainfall. Wading, shell collecting and fishing are not a risk unless you have open sores or lesions. Typically, health problems come from swallowing the water.



Swimming advisory issued: A swimming advisory has been issued by the local jurisdiction and the South Carolina Department of Health and Environmental Control for this section of beach. High bacteria levels have been detected in this section of beach and swimming is NOT advised until bacteria levels return to normal.

### C. Training and Presentations

Shannon Berry attended the Great Lakes Beach Association meeting held at Indiana Dunes State Park near Chesterton, Indiana. Among many interesting topics sanitary surveys were discussed. South Carolina's beach program plans to implement sanitary surveys in some form in 2009.

### D. Data

A history of the beach monitoring program in S.C. has been created. In this notebook are the stations by number, street address, and long/lat plus pictures taken at each location. There is a section on inspection data, advisory data, and Tier III activity. Changes made in the program from 2003 to the present are documented. This documentation should assist new staff in the program coordinator position.

During the 2008 season, we determined that our beach monitoring staff do not use the salinity measurement. We discontinued taking this reading on all ocean water samples.

The Natural Resources Defense Council (NRDC) issued its annual report on the state of the nation's beaches in August. The numbers published for South Carolina and the statements made to the national media about our state were inaccurate. Through the efforts of DHEC staff in our Office of Media Relations and myself, these errors were corrected in the Web version of NRDC's report. A copy of the e-mail from Nancy Stoner to me is included under Additional Materials. In an effort to be more proactive, the BEACH Grant program and the Office of Media Relations will work together this fall and annually thereafter to put out our state's ocean water quality report prior to the coming season. We will also post our sampling results monthly on the DHEC Web site.

#### 2008 Sampling breakdown by Region

<b>Region 6</b>	54 stations	Tier I	41 stations	All region 6
<b>Region 7</b>	28 stations	Tier II	84 stations	13 Region 6
<b>Region 8</b>	44 stations	Tier III	1 stations	only Region 8
	<u>126</u>		<u>126</u>	

#### Samples taken per Region:

	Taken
Region 6	1290 1054 DHEC only, others taken by CCU
Region 7	283
Region 8	<u>388</u>
	<u>1961</u>

#### Types of samples taken:

1961

<b>Routine</b>	<b>1875</b>
<b>Repeat</b>	<b>23</b>
<b>Rain</b>	<b>63</b>

<b>Region 7</b>	Samples Taken	Type	Rain	Repeat
		Routine		
Folly	80	80		
IOP	101	99	2	
Kiawah	49	49		
Seabrook	20	20		
Sullivan's Island	33	31	1	1
	<u>283</u>	<u>279</u>	<u>3</u>	<u>1</u>

<b>Region 8</b>	Samples Taken	Type	Rain	Repeat
		Routine		
Edisto	127	127		
Fripp Island	40	40		
Hunting Island	47	46		1
Harbor Island	29	24		5
Daufuskie Island	4	4		
Hilton Head Is.	141	141		
	<u>388</u>	<u>382</u>		<u>6</u>

<b>Region 6</b>	Samples Taken	Type	Rain	Repeat
		Routine		
North MB	222	210	11	1
MB	490	478	12	0
Springmaid	23	21	2	0
Surfside	168	139	17	12
Pawley's Is	27	27	0	0
Briarcliff Acres	71	64	6	1
HC Arcadia	85	81	4	0
HC SP&CGs	91	83	6	2
HC Garden City	42	40	2	0
GC Garden City Pt	9	9	0	0
G County	18	18	0	0
Litchfield	27	27	0	0
Debordieu	17	17	0	0
	<u>1290</u>	<u>1214</u>	<u>60</u>	<u>16</u>

## E. Region Activities

**Region 6:** At the end of the 2007 sampling season, the beach monitoring program in Region 6 used a rain model for posting advisories at our Tier I beaches. Over the winter 2007-2008, Sean Torrens, Regional Coordinator for Region 6, evaluated the rain model and our sampling protocol. In the 2008 season, the rain model was used to assist with advisory posting. Additional rain event sampling was done as needed, especially after tropical storms.

Surfside Beach was the site Sean Torrens chose for our participation in Beach Sweep 2008. Sean, Rayna King, Thom Berry and I represented DHEC in our group of about 20 people who picked up trash for this international event. Sean plans to make this an annual event.



Sean  
instructing  
the sweep  
team.

**2. Region 8: E-mail from Dave Payne about Hunting Island:** *"The only station down there is LC-089 which was "Beach in front of Cabin 9". Cabin 9 departed this world last year, also due to erosion. We (the Park Manager and I) picked 44 Cabin Road south to Fripp Inlet to encompass the whole stretch with cabins with septic tank issues. The Health Dept has since sent certified letters to 11 cabin owners requiring them (within 3 days of receipt) to disconnect, pump out, and cap off their septic tanks. Last communication from them said they were going out today (Monday) to ensure compliance. Once I hear from them we can decide when to go back out and re-sample. I would say this is an on-going precautionary advisory. Even if they pump out and cap off, there's still septage in the tile fields that may leach out onto the beach."*



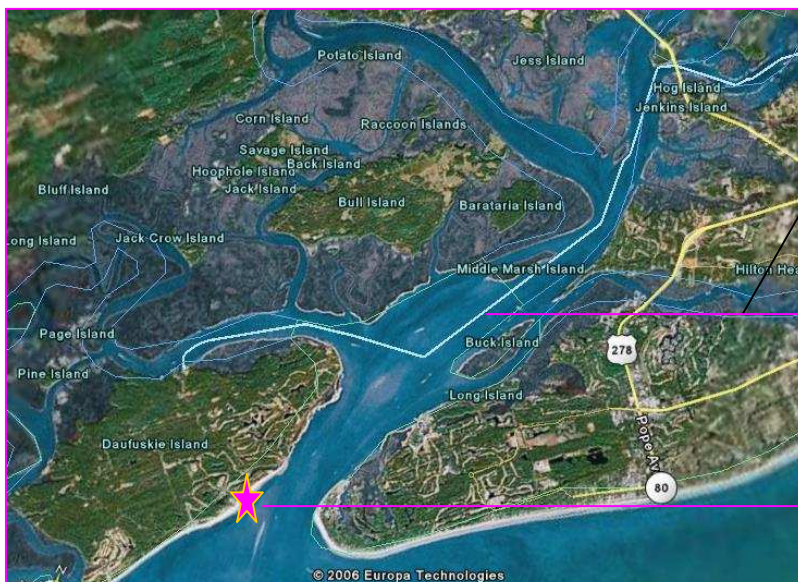
Exposed septic tanks



Before the 2008 beach monitoring season, we made some changes to our sampling stations. We deleted a station on Fripp Island that is now underwater (picture in the Strategic Plan); deleted a station on the Sound side of Harbor Island (a new station was added last year); and we revised the stations on Edisto to better reflect the beach after renourishment.

The first sampling run to station LC-112 is complete with results showing <10 at 100 feet offshore. Daufuskie Island was categorized a Tier III site and was sampled monthly in 2008. This site was sampled from a boat as close to the shoreline as possible. The factors to evaluate will be: the cost to take the sample, the hold time, and the ability of the sample taker to combine this sample with another sampling run. The travel time from Daufuskie to Port Royal is about 2 hours. We will not continue sampling LC-112 in 2009.





Ferry route from Hilton Head.  
There are no cars on  
Daufuskie Island.

Sample taken 100 ft. off shore  
from boat.

Sample results were:

June 26 < 10      July 10 < 10      August 21 41  
September 30 < 10. All samples were collected between 8:30 and 10:00am.

### E. Projects

Appendix B is a news release sent out by DHEC to announce the start of the beach sampling and advisory season.

The marinas/boat ramps/jetski docks west of the Inter-Coastal Waterway were deleted from SC's list of beaches and on BEACON.

The strategic plan for beach monitoring is included in Appendix C with updates in italics.

## IV. Financial Update for 2008 Grant Application

	Budgeted	As of 10/17/08 Funds Available
Personnel	\$157,392	
Fringe 32%	\$ 50,365	
EQC Rate	\$ 28,006	
Travel	\$ 2,500	\$ 47.91
Supplies	\$ 7,000	\$1,385.33
Indirect	\$ 24,081	
Mini-Grants	\$ 23,926	
Total	\$293,270	

\* \$5,070 of this amount is committed to the Town of Surfside Beach. The rest will be used internally to promote public notification.

## Appendix A

### OCRM – Beach Monitoring Program

Agenda

April 28

- **Introductions**
- **Purpose of the meeting**
- **Beach Program – BoW**
- **Training / Technical Assistance**
- **Areas of Mutual Interest**
- **Communication Channels**
- **Cooperative Efforts**
- **Questions / Discussion**



**Wild Dunes**



**Fripp Island**



Fripp Island





# NEWS RELEASE

Division of Media Relations  
2600 Bull Street  
Columbia, S.C. 29201  
(803) 898-3886  
[www.scdhec.gov/news](http://www.scdhec.gov/news)

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## Appendix B

### FOR IMMEDIATE RELEASE

April 2, 2008

#### BEACH grant comments sought

COLUMBIA – South Carolinians are encouraged to comment on beach monitoring and public notification under the federal Beaches Environmental Assessment and Coastal Health Act, the state Department of Health and Environmental Control reported today.

“The BEACH Act authorizes the U.S. Environmental Protection Agency to award grants to states, tribes and territories to implement beach water quality monitoring programs at coastal and Great Lakes recreational beaches,” said Shannon Berry, beach monitoring coordinator in DHEC’s Bureau of Water. “These grants also support programs to inform the public about the risk of exposure to disease-causing microorganisms in the waters at beaches. South Carolina is one of 35 states receiving the EPA grant.”

Berry said DHEC monitors the quality of water at the state’s beaches every year.

“When bacteria levels in the water are too high, the public is notified of beach advisories when necessary,” Berry said.

Berry said comments are being sought on the following components of the beach monitoring and public notification program:

- Beach evaluation and classification process, including a list of waters to be monitored and beach ranking.
- Sampling design and monitoring plan, including sampling location and frequency.
- Public notification and risk communication plan, including methods to notify the public of swimming advisory.

For additional information contact Shannon Berry at (803) 898-3541 or at [berrysk@dhec.sc.gov](mailto:berrysk@dhec.sc.gov).

-###-

#### For more information:

Thom Berry – (803) 898-3885  
E-mail – [berrytw@dhec.sc.gov](mailto:berrytw@dhec.sc.gov)  
BNR1768

## Appendix C

### Strategic Plan – Beach Monitoring 2006-2011

#### 2006-2007

- ❑ Winter Add station at Atlantic Beach, revise stations at Fripp Island, evaluate Hilton Head for Tier I status, delete marinas from Tier III status, implement chain of custody process, determine methodology for 303d list for ocean water quality – *I was not able to delete the marinas from Tier III but an understanding of their status was reached with EPA. Atlantic Beach declined our offer to add a station there.*
- ❑ Spring Re-apply for Beach Grant which expires 12/31/07 – be sure all spending is finalized for the end of the current grant period, send out letters for mini-grant applications - *Complete*
- ❑ Summer Sampling and notifications, input data, document changes to stations. *Sampling is complete and all data is ready for submittal to EPA.*
- ❑ Fall Close out mini-grants, end of season meeting. *The Town of Hilton Head Island has submitted their report as of 11/9/07.*

#### 2007-2008

- ❑ Winter
  - Create rain model based on 5 years of Beach Grant data and begin precautionary advisory posting based on the model, discuss the need for mini-grants. *The rain model was used successfully this year.*
  - Our plan is to discontinue the offering of mini-grants and to assume all sampling in-house. If we make this decision, we will need to re-write the QAPP and our SOPs. *We no longer offer mini-grants for sampling. We have funded a mini-grant for notification. The QAPP has been revised.*
  - We also plan to study Withers Swash and the swash system at Pirateland to try to determine a point source. *Still planned. We'll need more rain for the study to be successful.*
  - We will be working with the 303d staff on sampling protocols for this listing. *Complete.*
  - Shannon will work with Rheta Geddings, BoW's liaison with OCRM to develop a closer working relationship between the beach monitoring program and OCRM. SC DHEC's Art Department is working on a Stay Well in the Water promotional campaign. We should have some items to look at the November 29<sup>th</sup> meeting in Region 7. *Complete.*
  - Pirateland Campground requested we change the name of station WAC-028 from Pirateland to Beaver Dam Creek. *Complete..*
- ❑ Spring Begin the mini-grant application and review process if needed. *Complete.*
- ❑ Summer Sampling and notifications, input data, take pictures and make notations for sampling station book on new or revised station locations, document changes. *Some pictures of sampling stations were taken in April. See examples below.*



□ Fripp at low tide LC-092



Hunting Island after renourishment



TRI-057



After Folly Beach



Before

- **Fall** Close out mini-grants, end of season meeting, verify data for upload to EPA.

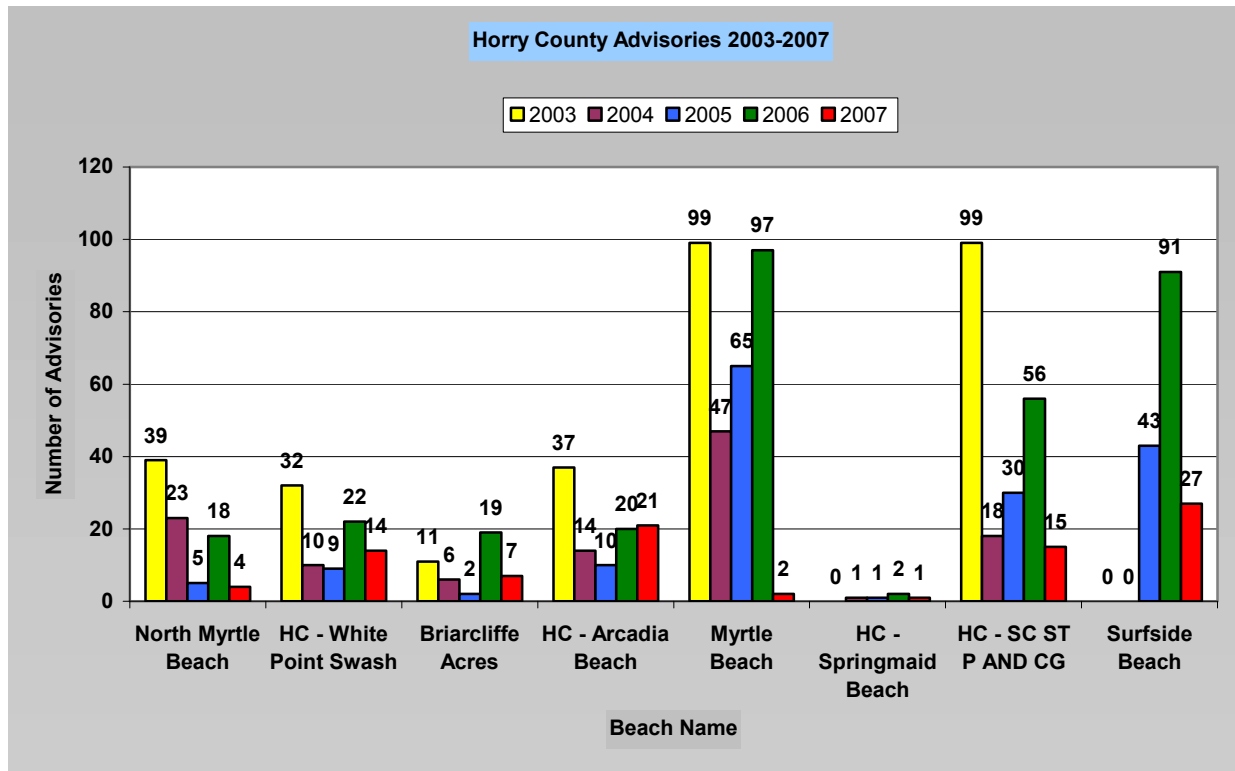
## 2008-2009

- Winter Evaluate rain model data, revise model as necessary, update station manual and sampling protocol. Have end of season meeting with beach program staff and pre-season meeting with OCRM group. End of season meeting complete. A summary e-mail was sent to Region IV EPA Nov. 10<sup>th</sup>. A meeting was held with Dr. Dwayne Porter of USC about the rain model project Nov. 12<sup>th</sup>. He will work with Jeannie Eidson and Sean Torrens. Another outcome of this meeting is a pledge from DHEC's Information Systems Director to simplify the data input for our beach monitoring and shellfish sanitation data. This project will allow Region staff to input data directly into LIMS and EFIS from a Web based program.
- Spring Begin mini-grant application process. Begin using the Web based data entry program. Re-evaluate station locations in Region 8. Determine areas for sanitary surveys. Produce 2008 report for the Web prior to May.
- Summer Sample, notify, collect data. Perform Sanitary Survey's in each Region.
- Fall Close out mini-grants, end of season meeting, verify data for upload to EPA. Evaluate the season.

## 2009-2010

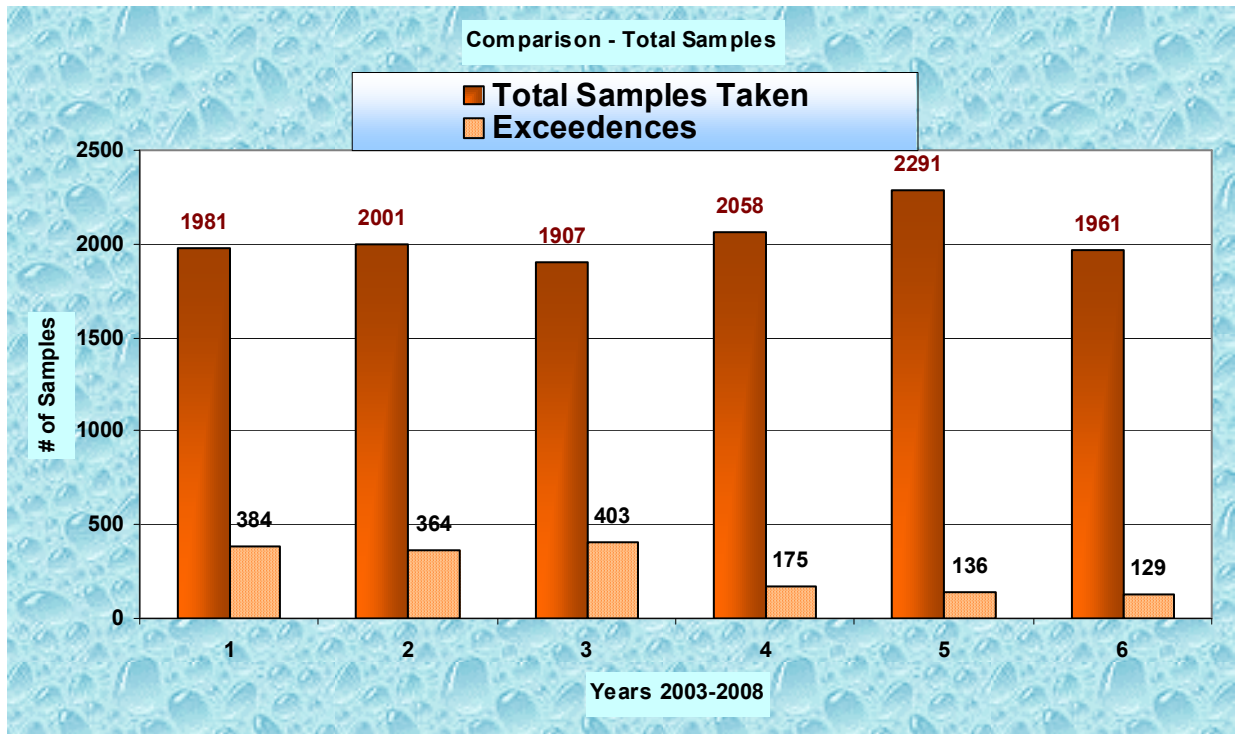
- Winter Work with OCRM on beach status – erosion, accretion.

## Additional Information

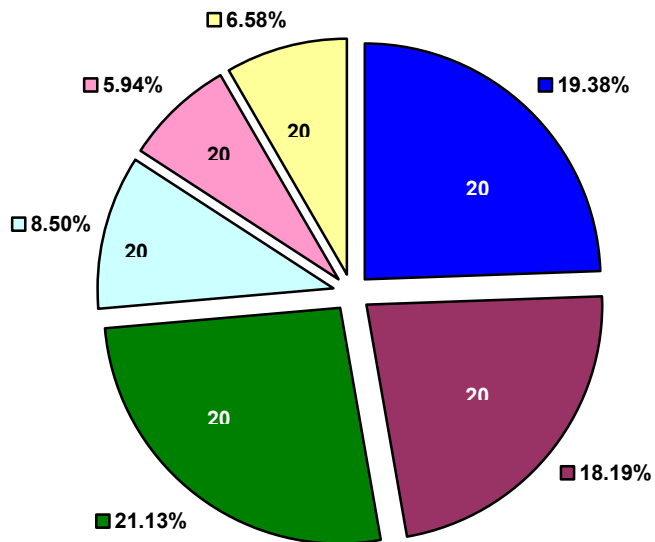


The fewer number of advisories in 2007 is due to: permanent signs, less rainfall, and use of the rain model.

	Total Advisories				
	2003	2004	2005	2006	2007
<b>North Myrtle Beach</b>	39	23	5	18	4
<b>HC - White Point Swash</b>	32	10	9	22	14
<b>Briarcliffe Acres</b>	11	6	2	19	7
<b>HC - Arcadia Beach</b>	37	14	10	20	21
<b>Myrtle Beach</b>	99	47	65	97	2
<b>HC - Springmaid Beach</b>	0	1	1	2	1
<b>HC - SC ST P AND CG</b>	99	18	30	56	15
<b>Surfside Beach</b>	0	0	43	91	27
<b>Garden City</b>	3	3	2	0	0
<b>GC-Hunting Island SP</b>	0	0	0	0	0
<b>Litchfield</b>	0	1	0	0	0
<b>Pawley's Island</b>	0	0	0	0	0
<b>Debordieu</b>	0	0	0	0	0

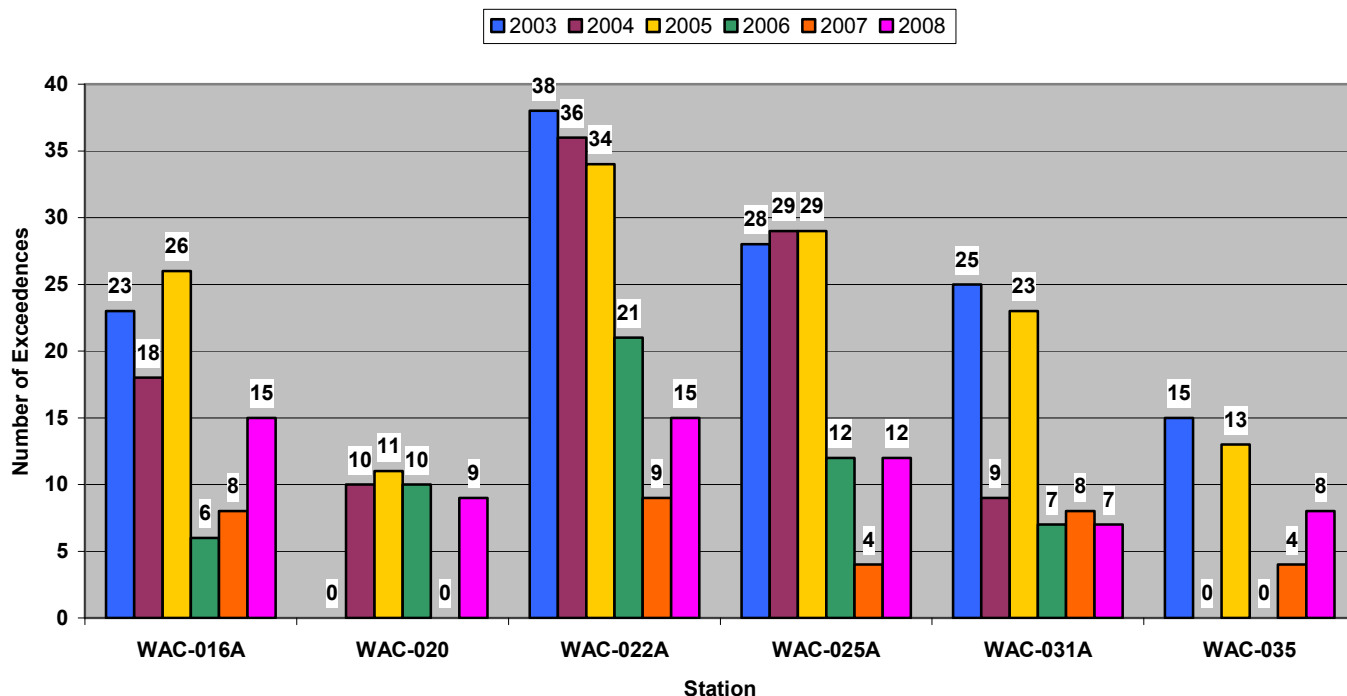


% Exceedences to Samples Taken





Most Exceedences by Station 2003-2008



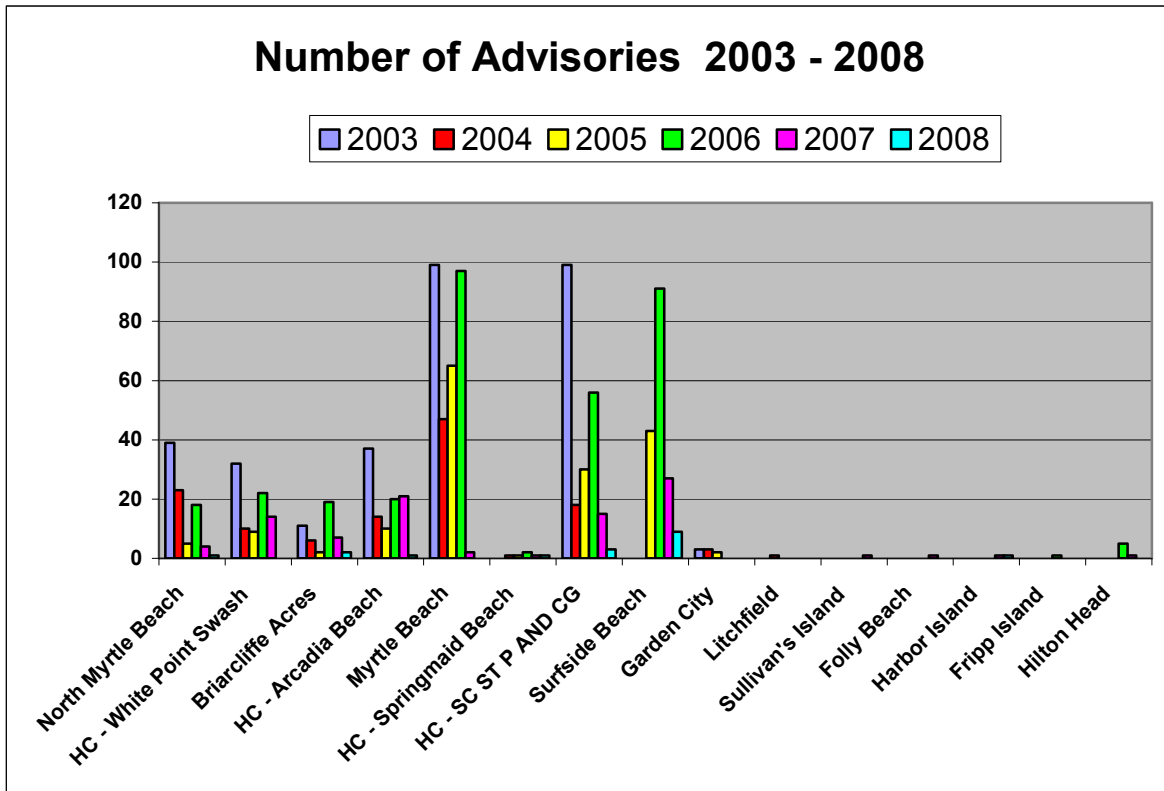
Advisory data: In 2008, SC had 3, 696 beach days. Of those days, 36 days were under advisement. This is 0.97% of our days. Less than 1% of SC beach days were under advisement in 2008.

Adv w/o zeros

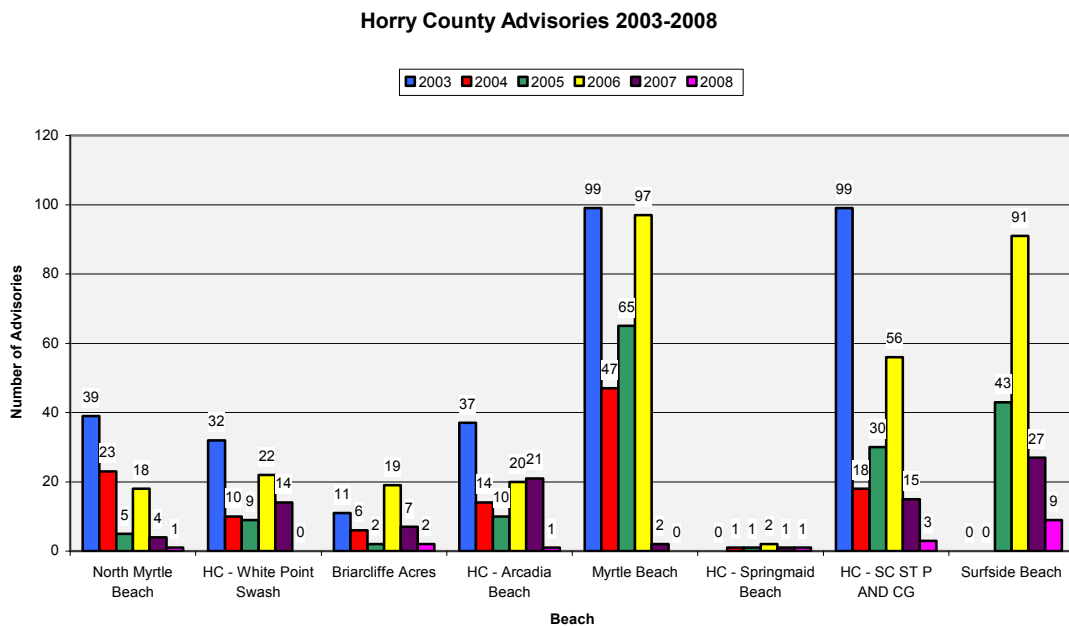
Total Advisories

	2003	2004	2005	2006	2007	2008
North Myrtle Beach	39	23	5	18	4	1
HC - White Point Swash	32	10	9	22	14	0
Briarcliffe Acres	11	6	2	19	7	2
HC - Arcadia Beach	37	14	10	20	21	1
Myrtle Beach	99	47	65	97	2	0
HC - Springmaid Beach	0	1	1	2	1	1
HC - SC ST P AND CG	99	18	30	56	15	3
Surfside Beach	0	0	43	91	27	9
Garden City	3	3	2	0	0	0
Litchfield	0	1	0	0	0	0
Sullivan's Island	0	0	0	0	1	0
Folly Beach	0	0	0	0	1	0
Harbor Island	0	0	0	0	1	1
Fripp Island	0	0	0	1	0	0
Hilton Head	0	0	0	5	1	0

## Advisory data charts

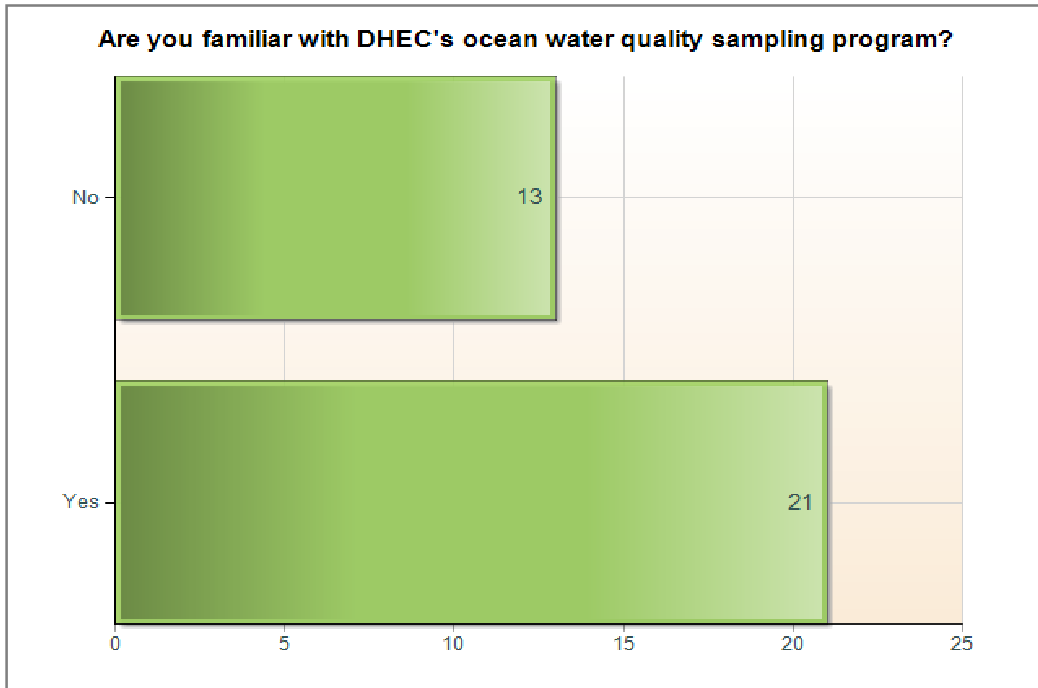


## Horry County Advisories only

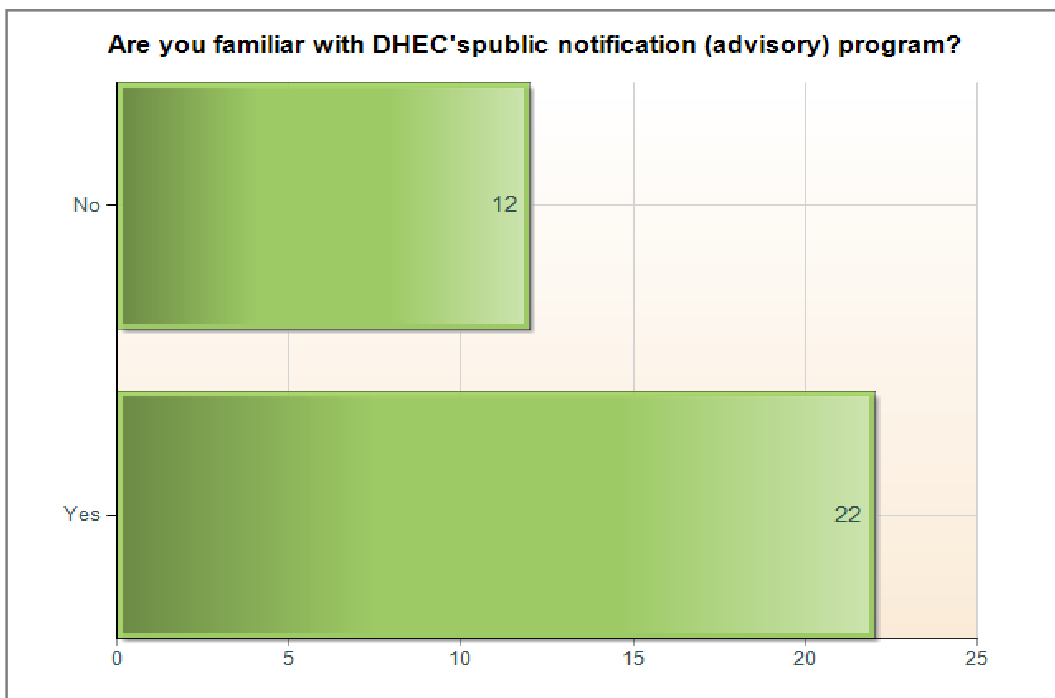


# Zoomerang Slide Presentation

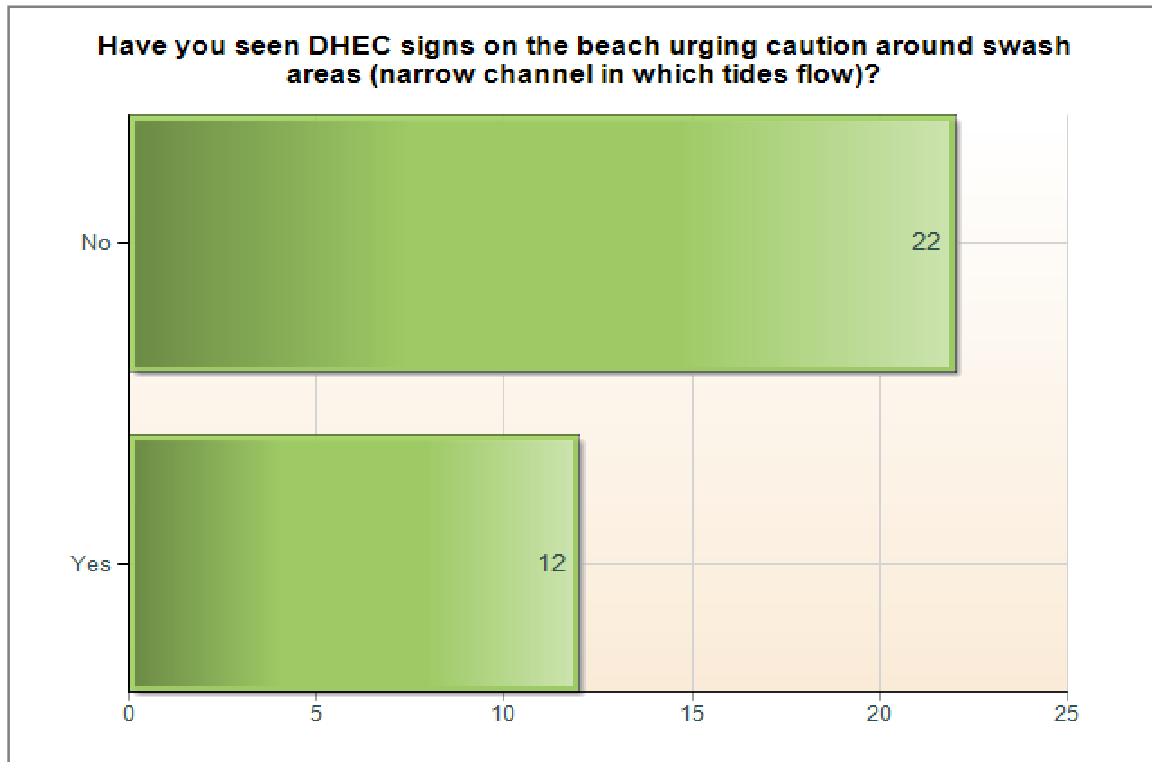
**Beach Website Survey:** Are you familiar with DHEC's ocean water quality sampling program?



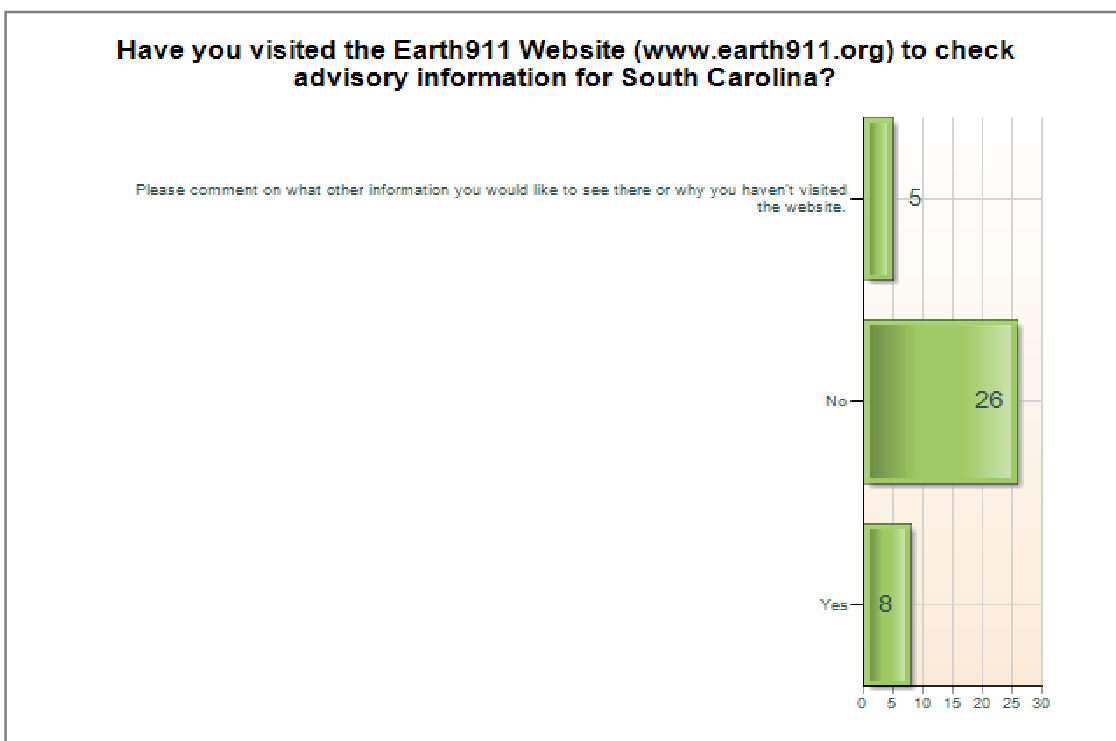
**Beach Website Survey:** Are you familiar with DHEC's public notification (advisory) program?



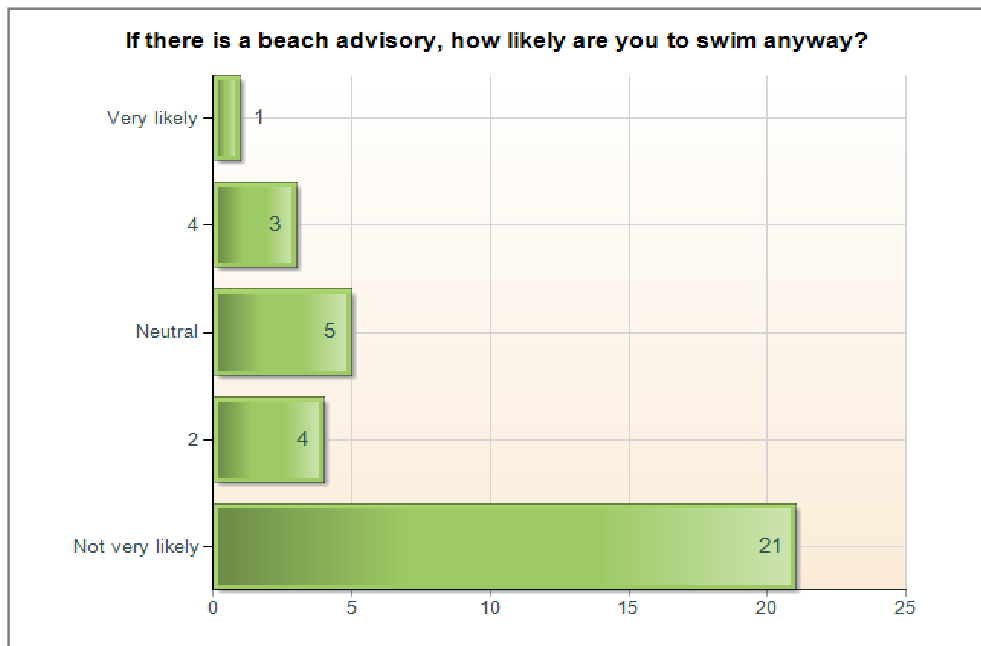
**Beach Website Survey:** Have you seen DHEC signs on the beach urging caution around swash areas (narrow channel in which ...



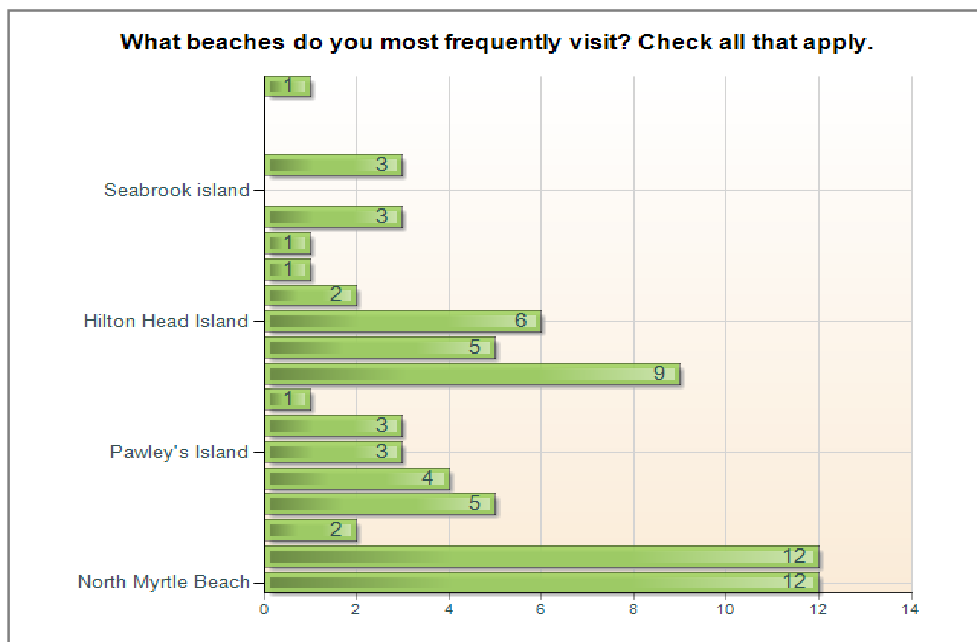
**Beach Website Survey:** Have you visited the Earth911 Website ([www.earth911.org](http://www.earth911.org)) to check advisory information for South ...



**Beach Website Survey:** If there is a beach advisory, how likely are you to swim anyway?



**Beach Website Survey:** What beaches do you most frequently visit? Check all that apply.

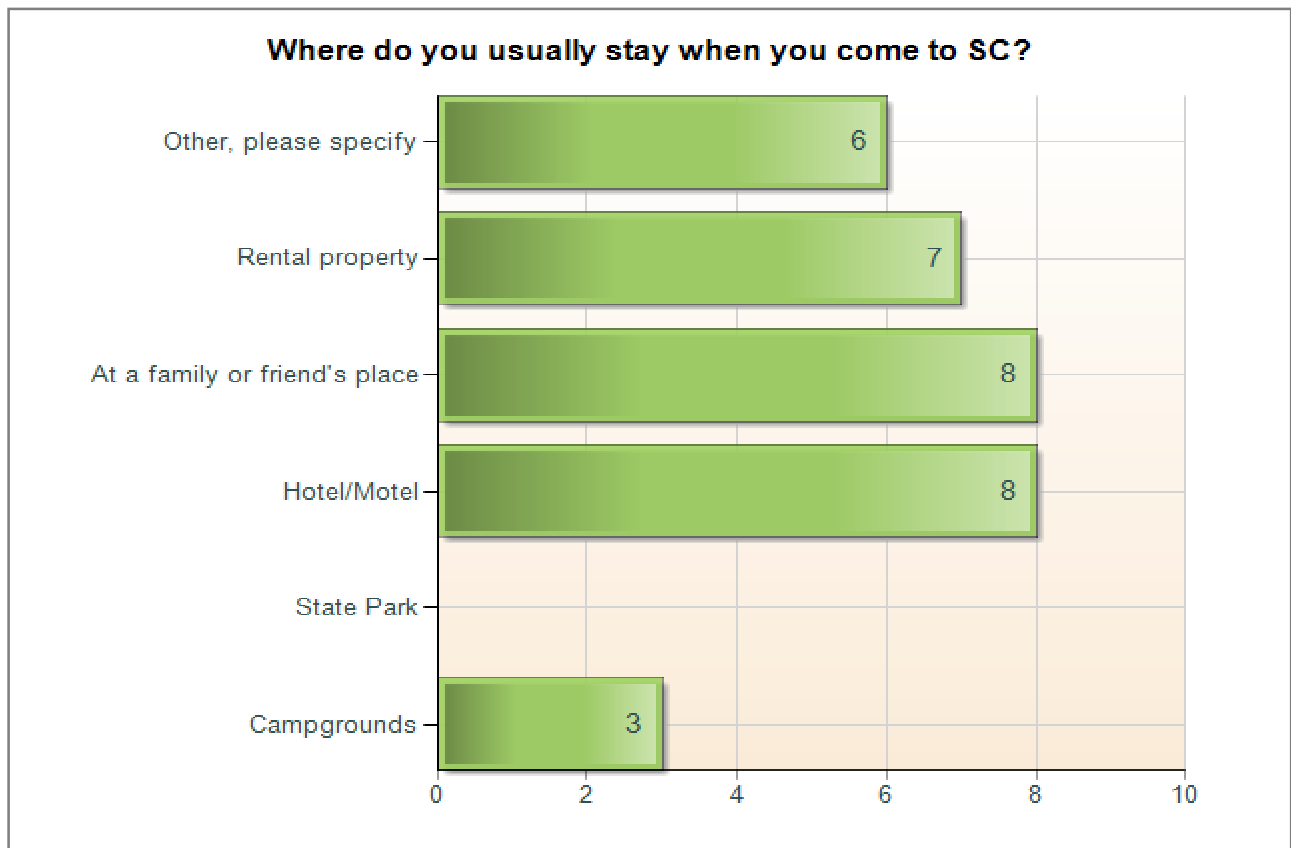


6. What beaches do you most frequently visit? Check all that apply.

#	Response
1	Wadmalaw Island

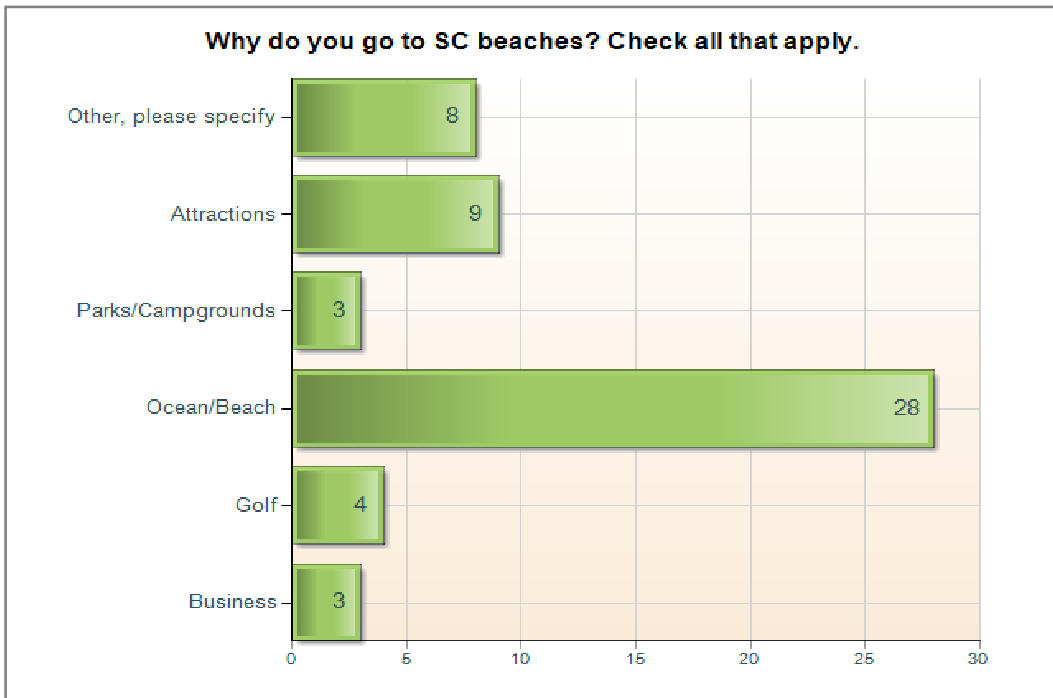
**Beach Website Survey:** Where do you usually stay when you come to SC?





7. Where do you usually stay when you come to SC?	
#	Response
1	I live in Beaufort
2	my beach condo
3	At our vacation home in Myrtle Beach
4	I live here
5	Fripp Island...I live here
6	home

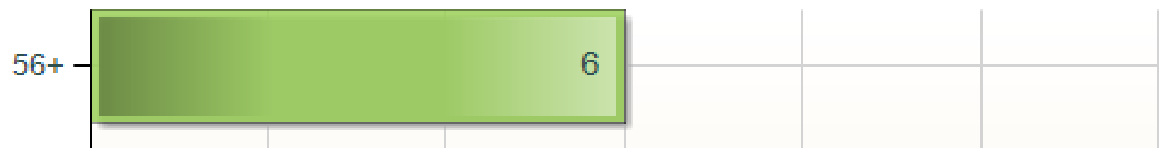
**Beach Website Survey:** Why do you go to SC beaches? Check all that apply.



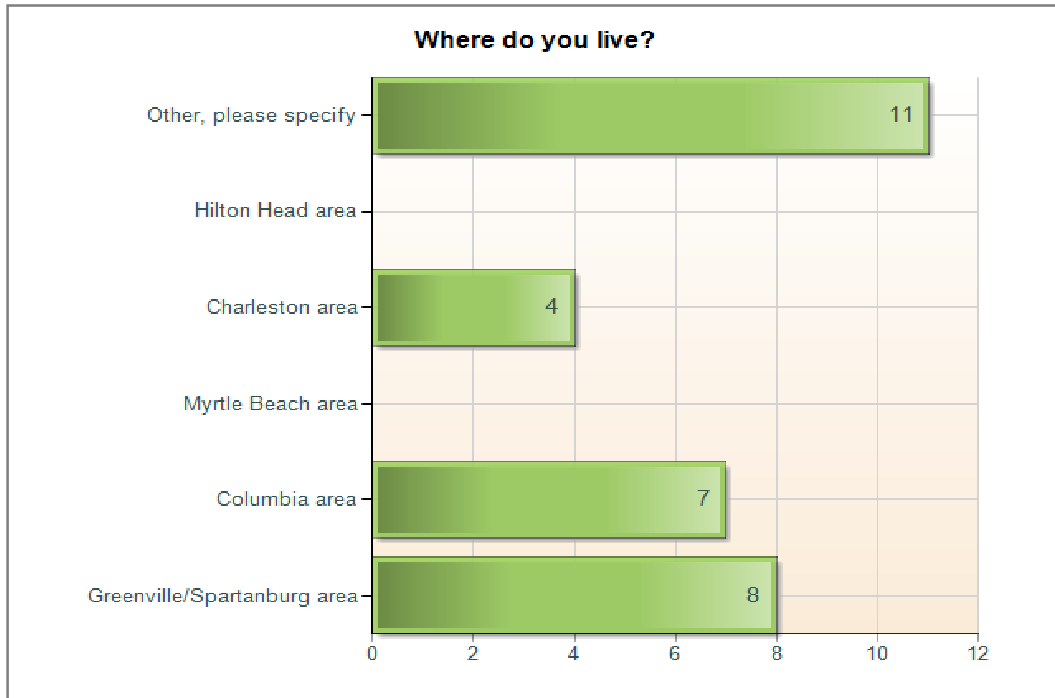
8. Why do you go to SC beaches? Check all that apply.

#	Response
1	shopping
2	near home
3	Sea Turtle nesting Volunteer
4	second home
5	shag events
6	Surfing and Fishing
7	I live here
8	TIME SHARE AT THE MARRIOTT

**What is your age?**



***Beach Website Survey:*** Where do you live?



#### 10. Where do you live?

#	Response
1	wilmington, nc
2	Pee Dee; Marion, SC
3	Beaufort
4	Darlington
5	Connecticut
6	Pee Dee Area
7	Shelby, NC
8	Greensboro, NC
9	Pittsburgh, PA
10	FREEPORT, PA. 16229
11	Fripp Island

>>> "Stoner, Nancy" <[nstoner@nrdc.org](mailto:nstoner@nrdc.org)> 8/1/2008 3:47 PM >>>

Shannon,

Mark Dorfman forwarded your note to him and Kirsten for my response. First, thanks for the invitation to SC beaches. It has been many years since I have had the pleasure to visit there, so I certainly would love to do so.

In response to your specific questions, NRDC has already prepared corrections to the SC state chapter, which we are working to have finalized and posted by Monday morning on our website. The maps were updated today. We will let you know when the state chapter is updated so that you can publicize it further as you deem appropriate.

There is no print version of the report, only the web. We have already released our letter indicating that we were making corrections to the SC chapter to the complete list of SC media outlets that you copied plus all those who have contacted us. I don't know if you have spoken to US EPA about this yet, but I have also informed them that their data needs correction. I would urge you to follow up on that with them because NRDC cannot correct STORET.

Re next year's report, we have not yet begun to discuss plans for next year yet, but would welcome receiving SC's data in Nov. Re your request to get the report on the day it is released, we have actually been providing the draft state chapters (including percentage exceedance information for particular beaches) to the states in advance as we did with SC this year. We would certainly plan to continue that practice as well as send courtesy copies. This year we sent them by overnight mail. We can consider e-mailing them instead if you think that would be preferable. I will discuss that with the team.

Re the timeliness of the report, we would love to get the report out by Memorial Day and could do so if we got all the information from the states by Nov., as you indicate SC could do. This year we acceded to EPA's request to get the data from them instead of asking each state for the data, which EPA told us that many states also apparently prefer. We will be meeting to discuss whether to do that again next year and will certainly be factoring our experience with EPA's SC data into that equation.

Thanks again for your help in resolving these issues.

Nancy Stoner  
202-289-2394

cc: Mark, Kirsten



**OCEAN WATER QUALITY MONITORING  
END OF SEASON MEETING  
NOVEMBER 6, 2008  
EQC Region 7 Conference Room  
10:00am to 1:00pm**

**Agenda**

**Welcome and introductions**

**Berry**

**REGION REPORTS**

**Region 6**

**Torrens**

**Region 7**

**Reilly**

**Region 8**

**Payne**

**Columbia**

**Berry**

**Web Site update**

**Advisory signs**

**Spending**

**Promotional items**

**Web Survey**

**Wix**

**EPA**

**Hansel**

**2009 Plans**

**All**

**Sanitary surveys (report from GLBA)**

**Week long sampling idea**

**Tier 3 sampling – Daufuskie example**